# GENWAL COAL COMPANY

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AIR QUALITY

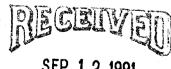
Pride & Performance

GENWAL CRANDALL COAL CANYON CO. MINE

LETTER OF INTENT BUREAU OF AIR QUALITY

Huntington, Utah

September 12, 1991



SEP 1 2 1991

DIVISION OF OIL GAS & MINING



RECEIVED

SEP 12,1991

September 16, 1991

AIR QUALITY

F. Burnell Cordner, Director Bureau of Air Quality 1950 West North Temple P.O. Box 16690 Salt Lake City, Utah 84116-0690

Dear Mr. Cordner:

At this time Genwal Coal Company would like to submit this Notice Of Intent to expand our production and modify our surface facilities to handle the increase in production. In addition, this Notice of Intent will reflect the upgrades to our power system and haulage road.

Currently we are approved to mine 360,000 tons of coal per year, and we would like to expand this production to 1,500,000 tons. Only slight changes in the operating procedures will be required and these changes will reduce emissions from the present state. Even with the increased number of coal haulage trucks total emissions will be reduced due to the paving of the coal haulage road.

Emissions will be further reduced due the elimination of the diesel generator previously used for power generation.

Please find enclosed the calculations used to determine emission levels and coal handling schematics, and production schedules for your review.

Your timely review of this modification would be greatly appreciated. If there are any further questions or comments please feel free to contact me at 687-9813. Thank you very much for your time and consideration.

Sincerely,

R. Jay Marshall P.E.

Chief Engineer

Genwal Coal Company

# (I) DESCRIPTION OF PROPOSAL

Genwal Coal Company proposes to make changes to our existing coal operation. Genwal Coal Company currently operates under an air quality approval order dated November 2, 1988. The total coal production is limited to 360,000 tons per year. The current approval allows for two crushers, screens, conveyors, and a grizzly, a surge bin, storage hoppers, and a truck load-out facility. The new proposal will up allowable production from 360,000 tons to 1,500,000 tons per year.

Genwal coal is the present owner of the following leases:

- 1) U-54762 T. 15S., R. 7E. Section 31: SE 1/4 SE 1/4, Section 32: S 1/2 SW 1/4, SW 1/4 SE 1/4; T. 16S., R.7E. Section 5: Lots 2,3, and 8.
- 2) SL-062648 T. 16S., R.7E. Section 5: SW 1/4 NW 1/4 Lot 4, Section 6: SE 1/4 NE 1/4, Lot 1
- 3) U-66438 T.15S., R.7E. Section 31: lots, 10, 11, and 12. (ROW)
- 4) ML-21568 T. 15S., R.6E. Section 36: ALL
- 5) ML-21569 T. 16S., R.6E. Section 2: All

Coal from all five leases is removed from one set of portals and is processed and loaded at one surface facility.

The following numbers describe the present operation:

- 1. 1,500,000 tons per year
- 2. 6,250 tons per day
- 3. 240 days per year
- 4. 20 hours per day
- 5. Pile size 1,500 tons average
- 6. Truck payload 45 tons
- 7. Road Length 1.35 miles
- 8. Power UPL line service

#### R.O.M. BELT (A)

Presently coal is mined with a continuous mining machine and transported by the R.O.M. (Run of Mine) conveyor belt (A) out of the mine and onto a Grizzly (B). (See Figures 1 and 2) The speed of the R.O.M. belt is less than 550 feet per minute. The drop for the R.O.M. coal from the R.O.M. conveyor to the Grizzly is less than five (5) feet.

#### GRIZZLY (B)

The grizzly dimension will be approximately 5' wide and 8' long. The Run of Mine (R.O.M.) belt will transport up to 1,500,000 Tons of coal a year starting in 1992.

The coal will be separated into one of two circuits at the grizzly. During normal operations the primary coal circuit will be used. The secondary circuit will only be used when the primary circuit fails or becomes overloaded. It is estimated that 1,350,000 tons will take the primary circuit and only 150,000 tons will end up in the secondary circuit. The primary circuit will be discussed first.

#### PRIMARY CRUSHER (C)

Coal leaving the grizzly and entering the primary circuit will leave as either 2" plus which will flow over the grizzly and into the primary crusher (C), or 2" minus which will pass through the grizzly, bypassing the crusher and drop directly onto the silo belt (D). It is estimated that of the 1,500,000 tons of R.O.M. coal, 1,080,000 tons will flow over the grizzly and into the primary crusher. Approximately 270,000 of the R.O.M. coal will pass through the grizzly and drop onto the silo belt.

#### SILO BELT (D)

The silo belt is approximately 100 feet long and travels at less than 550 feet per minute. From the silo belt the coal will drop into the silo (400 ton storage bin). The drop from the silo belt into the silo (E) is approximately 5 feet.

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#### SILO (E)

The silo is built of steel and is fully enclosed. The silo is constructed with an overflow. If the silo is full the coal will flow out the top of the overflow and onto the storage pile (J). This overflow coal will then be handled by the secondary circuit. The overflow coal will amount to approximately 135,000 tons a year. Approximately 1,215,000 tons of coal will pass through the silo and be reclaimed by the reclaim belt.

#### RECLAIM BELT (F)

The reclaim belt is approximately 50 feet long and travels at a speed of less than 550 feet per minute. Once the coal is weighed on the reclaim belt it is conveyed into coal haul trucks to be delivered to our buyers.

# COAL HAUL TRUCKS (G)

These coal haul trucks are not owned by Genwal Coal Company but are owned and operated by Savage Industries. These trucks are specially designed to haul coal long distances with minimal spillage.

The above discussion describes the Primary coal circuit which handles approximately 1,350,000 tons of the total production of 1,500,000 tons. The remaining 150,000 tons will be handled by the secondary coal circuit.

# SECONDARY CRUSHER (H)

Coal leaving the grizzly and entering the secondary circuit will leave as either 2" plus which will flow over the grizzly and into the secondary crusher (H), or 2" minus which will pass through the grizzly, bypassing the crusher and drop directly onto the bypass conveyor (I). It is estimated that of the 1,500,000 tons of R.O.M. coal, 120,000 tons will flow over the grizzly and into the secondary crusher. Approximately 30,000 tons of the R.O.M. coal will pass through the grizzly and drop directly onto the bypass belt.

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#### BYPASS CONVEYOR (I)

The bypass conveyor is approximately 40 feet long and travels at less than 550 feet per minute. Approximately 150,000 tons per year of coal from the bypass conveyor will drop approximately 75 feet onto the coal storage pile (J).

# COAL STOCKPILE (J)

Coal will only be stored on the stock pile if the primary circuit fails or if the silo overflow is being utilized. The amount of coal on the stockpile will change from day to day. The stock pile will collect coal from the secondary circuit as well as from the silo over flow. Approximately 135,000 tons a year will come from the silo over flow and 150,000 tons a year will come from the secondary coal circuit. The maximum amount of coal expected on the pile at any one time will be 3,000 tons. The majority of the time the pile will be depleted to minimal tonnages. Coal will be reclaimed from the coal stock pile by the use of a loader.

#### LOADER OPERATIONS

A cat loader, owned and operated by Savage Industries, will reclaim coal from the coal stock pile and place it into the reclaim coal hopper (K). The travel distance for this loader is less than 100 feet.

# RECLAIM COAL HOPPER (K)

This hopper is approximately 5 foot square and will hold nearly 3.5 tons. It is anticipated that only 285,000 tons of coal a year will be handled by the loader.

#### HOPPER BELT (L)

Coal from the hopper will drop from the bottom of the hopper onto a short conveyor which in turn will deposit the coal onto the reclaim conveyor. The hopper conveyor is approximately 20 feet long and travels at under 400 feet a minute. It is at the reclaim conveyor that the "primary" circuit and the "secondary" circuit join together

11-Sep-91

representing the total 1,500,000 tons a year of production. The total coal production will travel from the reclaim belt to the truck load out as discussed above.

The grizzly, and crushers are owned and operated by Genwal Coal Company. The loader, silo, and truck load out are owned and operated by Savage Industries. However, for the purpose of this Letter of Intent all equipment on Genwal Coal Companies permitted mine property was taken into consideration regardless of ownership.

#### (II) EMISSION SUMMARY

The emissions from the Genwal Operation are shown below with a comparison of present vs projected. A net emission increase is shown for convenience.

<u>Emission</u>	Present	Projected	Net Increase
Particulate PM SO2 NOX CO VOC Methane Aldehydes	22.36 8.47 4.43 65.71 14.46 5.35 0.00 1.00	13.91 5.57 .39 4.02 1.23 .54 0.00 0.09	-8.47 -2.85 -4.04 -61.7 -13.23 -4.82 0.00 -0.91
Total Yearly E	mission Decre	ase	8.47 TONS

#### (III) BEST AVAILABLE CONTROL TECHNOLOGY (BACT) ANALYSIS

The following points will require application of best available control technology (BACT) and were included in the emission calculations:

Haul road
Grizzly
Crushing
Conveying
Storage pile
Drop points
Disturbed soil, wind erosion
Diesel engine emissions

#### Haul Road

The old gravel haul road has been paved greatly reducing emissions. Due to the paving of the road no BACT evaluation is needed.

#### Grizzly

BACT for this emission point will include the following. The grizzly will be completely enclosed. The distance coal is dropped onto the grizzly will be minimized. Coal spray's will be used to suppress dust if the coal moisture content drops below 6%. Adding moisture to the coal reduces the value of the coal. For each per cent increase in moisture there is a corresponding decrease of about 200 BTU's. The 6% moisture level is well above the 4% required to be classified as "wet" crushing. Due to environmental conditions the sprays will only be used during the late spring, summer and early fall months to minimize the chances of freezing.

# Conveying

According to previous submittals the BACT for this emission point has been determined to be 10% opacity limitation. It will be met through the use of water sprays at the conveyor transfer points underground, where the water is protected from freezing. Water will also be applied at the face during the mining process. Experience has shown that adequate watering will allow the opacity limitation to be met. The conveyor will not be completely covered due to the low speed of the conveyors (6.8 MPH).

#### Storage Pile

The coal stock is needed to handle any overflow coal or coal handled in the secondary circuit. The maximum size of this pile will be 3,000 tons. However, the average or normal level will be less than 500 tons. BACT for this pile has been determined to be minimizing of emissions through an operating practice of watering as dry conditions warrant. Experience has shown that adequate watering will control fugitive dusts.

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#### Drop Points

The emissions from drop points at conveyor termination points will be controlled by water sprays employed when the coal moisture content drops below 6%. Again the spray system will only be used during warm dry weather.

# Disturbed Soil, Wind Erosion

BACT for disturbed areas and wind erosion from these areas has been determined to be minimizing of emissions through an operating practice of watering as dry conditions warrant. Experience has shown that adequate watering will control fugitive dusts.

#### Diesel Engine Emissions

BACT for all diesel engines at the coal mine has been determined to be minimizing of emissions through an operating practice of proper maintenance and low sulfur fuel as required by section 4.2.1, Utah Air Conservation Regulations (UACR).

By implementing the above plans Genwal Coal Company can effectively reduce emissions from 22.36 down to 13.91 even with an increase of production from 360,000 tons to 1,500,000 tons per year.

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# GENWAL COAL COMPANY Drop Flow Diagram

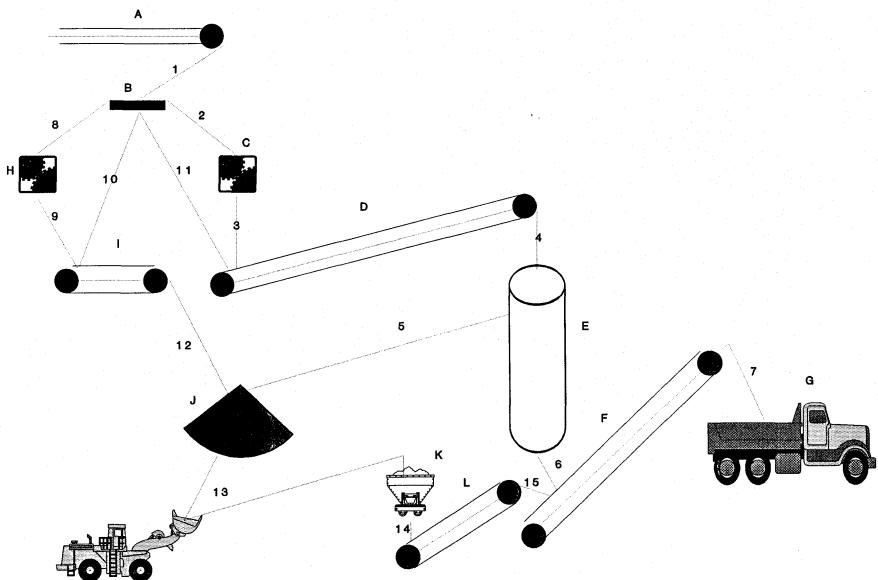
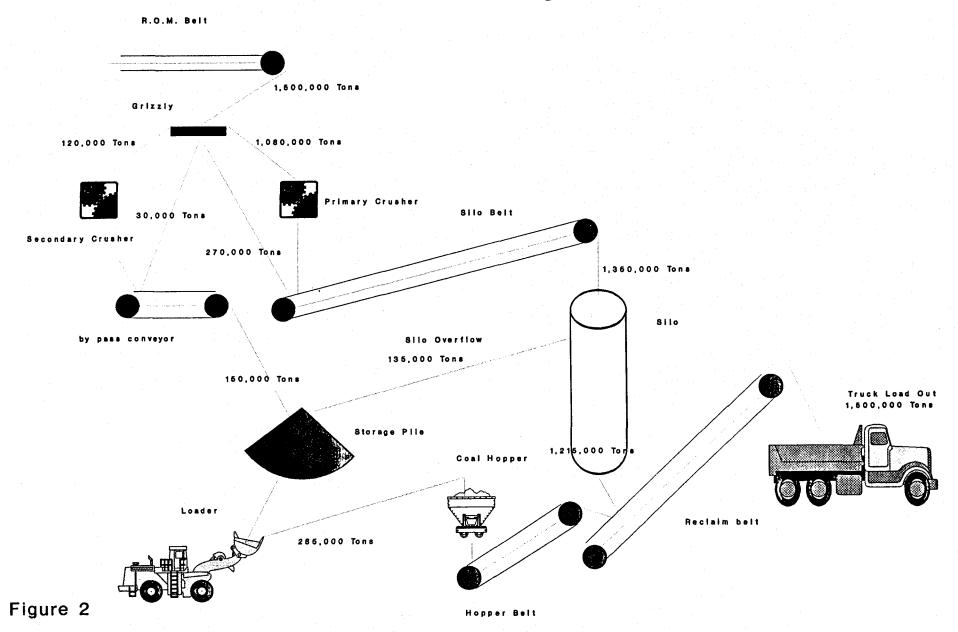


Figure 1

# GENWAL COAL COMPANY Process Flow Diagram



GENWAL COAL COMPANY
(Summary)
COMPARING 360,000 TONS/YR
WITH 1,500,000 TONS/YR

	360,000 TO	IS	1,500,000	TONS	NET EMISSION	INCREASE
SOURCE	TSP	PM-10	TSP	PM-10	TSP	PM-10
HAUL ROAD	10.700	4.800	2.431	0.851	-8.27	-3.95
MISC SOURCES	4.4000	0.2900	1.45	0.69	-2.95	0.40
CRUSHER			1.08	0.07	1.08	0.07
LOADER OPERATION	0.0048	0.0022	5.93	2.67	5.93	2.67
STORAGE PILE	0.146	0.054	0.146	0.054	0.00	0.00
DISTURBED SOIL WIND	2.40	0.87	2.51	0.90	0.11	0.03
DIESEL ENGINE EMISS	4.73	2.40	0.37	0.33	-4.36	-2.07
					<u>.</u>	
TOTAL	22.38	8.42	13.91	5.57	-8.47	-2.85

	(NET EMISSION		
TOTAL ANN	WAL EMISSIONS ESTI	MATE IN TON	S/YR
	360,000	1,500,000	1,140,000
	BEFORE	AFTER	CHANGE
			NET EMISSION INCREASE
TSP	22.38	13.91	-8.47
PM-10	8.42	5.57	-2.85
S0x	4.43	0.39	-4.04
NOx	65.71	4.02	-61.70
co	14.46	1.23	-13.23
VOC non I	METHAN 5.36	0.54	-4.82
VOC METHA	NE 0.00	0.00	0.00
ALDEHYDES	1.00	0.09	-0.91

Urban paved road emissions

PM-10

====

0.851

in TONS/Year

TSP

====

2.431

LOI Calculations
URBAN PAVED ROAD
assume Local Street roadway category

e =	k (sl	L/.7)	)^p	(lb	(TMV\c
-----	-------	-------	-----	-----	--------

Particulate Emission Factor e = 0.05402 lbs/VMT TSP\_\_\_\_\_ total road surface loading and From Table 11.2.5-3 sL = 2.0215 grains/ft2 surface silt content, fraction particles <75 um base emission factor, k = 0.0208 lb/VMT From Table 11.2.5-1 exponent p = 0.90 dimensionless From Table 11.2.5-1 ----- $e = k (sL/.7)^p (lb/VMT)$ Particulate Emission Factor e = 0.01892 lbs/VMT PM-10 \_\_\_\_\_\_\_ total road surface loading and sL = 2.0215 grains/ft2 From Table 11.2.5-3 surface silt content, fraction particles <75 um From Table 11.2.5-1 base emission factor, k = 0.0081 lb/VMT exponent p = 0.80 dimensionless From Table 11.2.5-1

#### SUMMARY

\_\_\_\_\_\_

Vechicle miles traveled (VMT)

Tons Produced 1,500,000 tons
Length of Road 2.70 miles per trip
Tons per trip 45.00

VMT = (tons prod)/tons per trip) \* Road Length

VMT = 90,000

CONTROLLED ANNUAL EMISSION RATE ESTIMATE FOR:

CRUSHER

SOURCE: 2 Crushers

COMPANY NAME: Genwal Coal Company

LOCATION: Huntington, Utah

DATE: 28-Aug-1991

Annual Emissions Estimate in Tons/Year =

(uncontrolled Emissions)\*(100-% Control)

Particulate (TSP) = 1.08 Tons/Year PM-10 . . . . = 0.07 Tons/Year

AP-42 Supplement A October 1986 Section 8 Mineral Products Industry Sources

8.19.2 Crushed Stone Processing

Table 8.19.2-1, Primary or Secondary crushing Dry Material

Emission Factors in LB/TON

TSP (From table 8.19.2-1).... 0.018 LB/TON PM10 (Ratio From above)..... 0.001 LB/TON

0.80 Crusher Through-Put: Percentage of Production Rate . . .

Production Rate of Crushing Plant 1,500,000 TONS\YEAR

Uncontrolled Particulate Emissions

TSP = (EMISS. FACT.)(Prod Rate)(% Through-put) /2000 LB/TON

TSP =10.80 TON/YEAR

PM-10 = (EMISS. FACT.)(Prod Rate)(% Through-put) /2000 LB/TON

PM-10 =0.72 TON/YEAR

Controlled Particulate Emissions

Percent Control: Enclosed Source ..... 0.90

Particulate emissions generated by drop operations. (Miscellaneous Sources)

LOI 1991

Total Production = 1500000

Tons

Total Particulate emissions

 $E = K((.0032)(U/5))^1.3/((M/2)^1.4)$ 

lb/ton From 11.2.3-3

E = emission factor

K = particle size multiplier (dimensionles)

U = mean wind speed, (MPH)

M= material moisture content (%)

0.74 TSP K =

0.35 PM- 10 K =

2 MPH U =

**Enclosed Area** 

7 MPH U = Open Area

5.8 % From Table 11.2.3-2 From Table 11.2.3-2

Default average value Actual measured average

ETSP =0.00016 lb/ton TSP = 1.45Total Tons/year

Total EPM-10 = 0.00008 lb/ton Total PM-10 = 0.69Tons/year

Drop No.	Tons	ETSP	TSP	EPM-10	PM-10	Drop FT.	From	To	Drop Description
									••••••
1	1,500,000	0.00016	0.12	0.00008	0.06	. 5	Α	В	ROM belt to Grizzly
2	1,080,000	0.00016	0.09	0.00008	0.04	5	В	C	Oversized from Grizzly to Primary Crusher
3	1,080,000	0.00016	0.09	0.00008	0.04	1	C	D	Crushed from Primary Crusher to Silo Belt
4	1,350,000	0.00016	0.11	0.00008	0.05	5	D	Ε	Crushed and undersized from silo belt to silo
5	135,000	0.00083	0.06	0.00039	0.03	60	Ε	J	Silo overflow to stock pile
6	1,215,000	0.00016	0.10	0.00008	0.05	3	E	F	Silo discharge to reclaim belt
7	1,500,000	0.00083	0.62	0.00039	0.29	12	F	G	Reclaim belt to haulage trucks
8	120,000	0.00016	0.01	0.00008	0.00	5	В	H	Oversized from Grizzly to Secondary Crusher
9	120,000	0.00016	0.01	0.00008	0.00	1	н	I	Crushed from Secondary Crusher to by-pass conveyor
10	30,000	0.00016	0.00	0.00008	0.00	- 6	В	I	Undersized from Grizzly to by-pass conveyor
11	270,000	0.00016	0.02	0.00008	0.01	6	В	D	Undersized from Grizzly to Silo Belt
12	150,000	0.00083	0.06	0.00039	0.03	75	I	J	Crushed and Undersized from by-pass conveyor to stock
13	285,000	0.00083	0.12	0.00039	0.06	2	J	K	Stock pile loaded into Coal Hopper using Front end lo
14	285,000	0.00016	0.02	0.00008	0.01	1	K	L	Coal Hopper to Hopper Belt
15	285,000	0.00016	0.02	0.00008	0.01	1	L	F	Hopper Belt to Reclaim Belt
			=====		=====				

SEE DROP FLOW DIAGRAM (Figure 1) SEE PROCESS FLOW DIAGRAM (Figure 2)

1.45

0.69

Totals

Controlled Annual Emission Rate Estimate For:

LOADER OPERARTIONS AREA

SOURCE: Loader Operation Area

Genwal Coal Company Huntington, Utah 28 August 1991

Annual Emissions Estimate in Tons/Yr

Particulate (TSP)	5.93 TONS/YEAR
PM10	2.67 Tons/YEAR

AP-42 Supplement A October 1986 Section 11 Miscellaneous Sources 11.2 Fugitive Dust Sources 11.2.1 Unpaved Roads: Loader Operations Area

TONS/YR = (LBS/VMT)(VMT/YR)(1Ton/2000lbs) =

Lb/VMT = Equation #1 From PG. 11.2.1-1 = K(5.9)((s/12)(S/30)((W/3)^.7)((w/4)^.5)((365-p)/365 k(5.9)((s/12)(S/30)((W/3)^.7)((w/4)^.5)((365-p)/365	)	. 14.659 LBS/VMT . 6.597 LBS/VMT
<pre>K = Part. Size Fact. &lt;30 micr. from PG. 11.2.1-3 k = Part. Size Fact. &lt;10 micr. from PG. 11.2.1-3</pre>	0.80	
s = Silt Cont MEAN DEFAULT VALUE FROM PG. 11.2.1-3		
S = SPEED DEFAULT VALUE	15 45.00	
w = Mean # wheels: BAQ DEF Value from PG. 11.2.1-3		Wheels
$p = \# \text{ of days} > .01 \text{ in H2O (estimated)} \dots$	30	Days
<pre>VMT/YR = (Miles/Trip)*(Trips/Year)</pre>	809.66	VMT/YR
Miles/Trip: Estimate (150 Ft/Trip)/(5280 ft/mile)	0.028	Miles/Trip
<pre>Trips/yr = (Mat. Loaded/yr)/(Mat. Loaded/trip)</pre>	28,500	Trips/Year
Material Loaded tons/yr from LOI	•	Tons/Year
Material Loaded/Trip: (Loaded wt Empty wt.)	10	
Empty Wt. Est. from staker asp. review		Tons
Loaded Wt. Empty Wt., + 5yd of gravel	50	Tons

5.93

Tons/YR

CONTROLLED ANN	UAL EMISSION RA	ATE ESTIMATE FO	OR:		
OURCE:_STORAG	E PILE			FILE:	<u>T4</u>
	GENWAL COAL COM				
DATE: 02-MAY-1	INGTON <u>UT</u> 988		TIME: 1	0: 42: 19 A	1
ANNUAL_EMISSIO	NS_ESTIMATE_IN	TONSZYR =			
PARTICULAT	E				TON/TR TON/YR
					-
SECTION 11 MIS 11.2.3 AGGREGA	DITION_SEPT19 CELLANEOUS SOUNTE HANDLING AND EROSION_EQ	RCES D STORAGE PILE	S		
GECTION 11 MIS 11.2.3 AGGREGA 11.2.3=3_WIND LBS/DAY/ACRE	CELLANEOUS SOUR TE HANDLING AND EROSION EQ	RCES D STORAGE PILE ROM PG. 11.2.3 )(f/15)=	S -5=		
SECTION 11 MIS 11.2.3 AGGREGA 11.2.3=3_WIND  LBS/DAY/ACRE (1.7)_(s/1_  s=SILT CON p=#_OF_DAY  AND MOIS	CELLANEOUS SOUR TE HANDLING AND EROSION_EQ	RCES D STORAGE PILE ROM PG. 11.2.3 )(f/15)= N VALUE FROM TE PRECP_) OR_( AND PROCESSIN	S-5= ABLE 11.2.3-3 SNOW_COVER)	10 240. 0	% DAYS
SECTION 11 MIS 11.2.3 AGGREGA 11.2.3=3_WIND  LBS/DAY/ACRE (1.7)_(s/1_  s=SILT CON p=#_OF_DAY  AND MOIS	CELLANEOUS SOURTE HANDLING AND EROSION_EQ  E=EQUATION #3 FILES)((.365-p)/235  HT.: DEFAULT MEARMS (.>= 01 IN OUR FROM MINE HE WIND IS <12	RCES D STORAGE PILE ROM PG. 11.2.3 )(f/15)= N VALUE FROM TE PRECP_) OR_( AND PROCESSIN	S-5= ABLE 11.2.3-3 SNOW_COVER)	10 240. 0	% DAYS
SECTION 11 MIS 11. 2. 3 AGGREGA 11. 2. 3=3_WIND  LBS/DAY/ACRE(1. 7)_(s/1_	CELLANEOUS SOURTE HANDLING AND EROSION_EQ  E=EQUATION #3 FILES)((.365-p)/235  HT.: DEFAULT MEARMS (.>= 01 IN OUR FROM MINE HE WIND IS <12	RCES D STORAGE PILE ROM PG. 11.2.3 )(£/15)=  N VALUE FROM T E_PRECP_)_OR_( AND PROCESSIN MPH: BAG DEFAL	S -5= ABLE 11.2.3-3 SNOW_COVER) G T STATE WIDE.	240. 0 17. 0	% DAYS %
SECTION 11 MIS 11. 2. 3 AGGREGA 11. 2. 3=3_WIND_  LBS/DAY/ACRE(1. 7)_(s/1_	CELLANEOUS SOUR TE HANDLING AND EROSION EQ	RCES D STORAGE PILE ROM PG. 11.2.3 )(£/15)=  N VALUE FROM T E_PRECP_)_OR_( AND PROCESSIN MPH: BAQ DEFAL  INDICATED_IN_7	S -5= ABLE 11.2.3-3 SNOW_COVER) G T STATE WIDE.	240. 0 17. 0	% DAYS % ACRES
SECTION 11 MIS  11. 2. 3 AGGREGA  11. 2. 3=3_WIND  LBS/DAY/ACRE (1. 7)_(s/1_  s=SILT CON p=#_OF_DAY  AND MOIS f=% OF TIN  USE: 365 DAY ACRES_OF_STO  EMISSIONS ESTIPARTICULATE_ (LB/DAY/AC PM10 = (TSP)FROM_WIND	CELLANEOUS SOUR TE HANDLING AND EROSION EQ.  E=EQUATION #3 F1  5)((365-p)/235  IT.: DEFAULT MEAN S (>= 01 IN ON TURE FROM MINE BE WIND IS <12  CS/YR  DRAGE PILE: AS.  (MATE: (TSP) = CRE)*(DAYS/YR)*  (O. 37)  EROSION PM10 E	RCES D STORAGE PILE ROM PG. 11.2.3 )(f/15)=  N VALUE FROM T F PRECP.) OR ( AND PROCESSIN MPH: BAG DEFAL  INDICATED_IN_7  ACRES/(2000 LB	S  -5=  ABLE 11.2.3-3  SNOW_COVER)  G T STATE WIDE.  -1-87 TEL. CO	0. 115 0. 0. 054	% DAYS %
SECTION 11 MIS  11. 2. 3 AGGREGA  11. 2. 3=3_WIND  LBS/DAY/ACRE (1. 7)_(s/1_  s=SILT CON p=#_OF_DAY  AND MOIS f=% OF TIN  USE: 365 DAY ACRES_OF_STO  EMISSIONS ESTIPARTICULATE_ (LB/DAY/AC PM10 = (TSP)FROM_WIND	CELLANEOUS SOUR TE HANDLING AND EROSION EQ.  =EQUATION #3 FI  5)((365-p)/235  IT.: DEFAULT MEAN S (>= 01 IN ON TURE FROM MINE ME WIND IS <12  S/YR  PRAGE PILE: AS.  MATE: (TSP) = CRE)*(DAYS/YR)*	RCES D STORAGE PILE ROM PG. 11.2.3 )(f/15)=  N VALUE FROM T F PRECP.) OR ( AND PROCESSIN MPH: BAG DEFAL  INDICATED_IN_7  ACRES/(2000 LB	S  -5=  ABLE 11.2.3-3  SNOW_COVER)  G T STATE WIDE.  -1-87 TEL. CO	0. 115 0. 0. 054	% DAYS % ACRES TON/YR

大人的大學 医人名英格雷斯 医大大性 的现在分词

CONTROLLED	ANNIIAT.	EMISION	DATE	PCTTMATE	FOD.
CONTROTTED	WIMOVI	PHITOTOM	KAIL	POITMAID	ruk:

SOURCE: DISTURBED SOIL WIND EROSION

GENWAL COAL COMPANY HUNTINGTON, UTAH 29 AUG 1991

ANNUAL EMISSIONS ESTIMATE IN TONS/YR = (TON/ACRE/YR)(ACRE)

TOTAL	PARTICULATE	• • • • • • • • • • • • • • • • • • • •	2.51	TON/YR
PM-10	•••••		0.90	TON/YR

AP-42 FOURTH EDITION SEPT 1985 VOLUME 1 SECTION 8 MINERAL PRODUCTS INDUSTRY SOURCES 8.24 WESTERN SURFACE COAL MINING TABLE 8.24-4, WIND EROSION OF EXPOSED AREAS

# EMISSION FACTOR IN TON/(ACRE\*YEAR)

PARTICULATE (tsp) FROM TABLE 8.24-4	0.38	T/A*YR
PM10	NA	T/A*YR
USE: 365 DAYS/YR		
ACRES OF DISTURBED AREA: FROM LOI	6.60	ACRES
TSP IN TON/YR = (TON/ACRE*YEAR)(ACRE)  PM10 IN TON/YR = TSP(0.37)  FROM WIND EROSION PM10 ESTIMATE 10/06/87  STUDY PERFORMED BY DAVE PREY BAQ	2.51 0.90	TON/YR TON/YR

#### CONTROLLED ANNUAL EMISSION RATE ESTIMATE FOR:

SOURCE: WHEELED LOADER

GENWAL COAL COMPANY HUNTINGTON, UTAH 29-AUG-1991

A	NNUAL EMISSIONS ESTIMATE IN TONS/YR =		
	(EMISS. FACTOR)(GAL/YR)(1/1000)(1 TON/2000LBS)	(# OF LO	ADERS)
	PARTICULATE (TSP)	0.366	TONS/YR
	PM10	0.330	TONS/YR
	S0x	0.390	TONS/YR
	NOx	4.015	TONS/YR
	CO	1.233	TONS/YR
	VOC, non-METH (EXHAUST HYDROCARBONS)	0.540	TONS/YR
	VOC, METH	0.000	TONS/YR
	ALDEHYDES	0.090	TONS/YR

AP-42 SUPPLEMENT A OCTOBER 1986 SECTION II: OFF HIGHWAY MOBILE SOURCES II-7: HEAVY DUTY CONSTRUCTION EQUIPMENT TABLE II-7.1: EMISSION FACTORS FOR HEAVY-DUTY DIESEL-POWERED CONSTRUCTION EQUIPMENT

WHEELED LOADER (IN LBS/K GAL)

#### EMISSION FACTOR IN LBS/K GAL OF OPERATION

PARTICULATE (TSP)	29.3
PM10BAQ ESTIMATE OF 90% OF TSP	26.4
Sox	31.2
NOx	321.2
CO	98.7
VOC, non-METH (EXHAUST HYDROCARBONS)	43.2
VOC, METH	0.0
ALDEHYDES	7.2
GALLONS DIESEL FUEL/YR: NOI INFO	25.000
NUMBER OF WHEELED LOADERS	1.0